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THE PLANTS SEEN AND COLLECTED IN NORTH-WESTERN AUSTRALIA BY WILLIAM DAMPIER

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In 1968 I was able to examine the plants collected by William Dampier in Australia in 1699. The collection is housed in the Sherardian Herbarium at Oxford and was on loan to the Royal Botanic Gardens, Kew, at the time I saw it. Previous references to it include a paper by Mueller (1883) and one by Osborn and Gardner (1939). Mueller did not see the specimens but relied on the identifications of Professor M. A. Lawson of Oxford, and on the descriptions and illustrations in the works of Dampier (1703) and Plukenet (1705). He listed 14 species, but one of these, *Clerodendrum lanceolatum* F. Muell., was incorrectly determined from a figure which represents a South American species. Osborn and Gardner saw the Dampier collection and listed 17 species of which one, *Aeschynomene indica* L., is now considered to have been collected elsewhere. They also tentatively identified four others from figures in the works of Dampier and Plukenet. These four are among several specimens which have recently been found (see Clokie, 1964), and the Australian species as represented by extant specimens now total 23. Several re-determinations have been made, while a few specimens, remarkably, had never been named at all.

Dampier collected in two areas along our coast. He entered Shark Bay on August 6th, 1699, and spent five or six days there, landing several times in search of water and timber. Both Dampier, Captain of the *Roebuck*, and Jacob Hughes, the Master, commented on the country and its vegetation. Between 23rd August and 5th September, Dampier visited several islands in the Dampier Archipelago and also the adjacent mainland. On one island on which he landed a plant he saw (namely *Olearia axillaris)* reminded him of the English Rosemary and he named it Rosemary Island. However, it is now agreed that the island which bears this name on current maps (which follow the cartography of the Baudin Expedition in 1801) is not the one which Dampier originally named. King (1817) considered it to be the one now known as Malus Island, but Tuckfield (1955), with more information at his disposal, determined it to be Lewis Island, or an adjacent one. Dampier also landed at La Grange Bay but apparently collected nothing, though he referred to plants seen there.

Table 1 lists the species represented in the collection at Oxford. The numbers are not Dampier's, but were given to the sheets subsequently by William Baxter when compiling a catalogue of specimens in the Sherardian Herbarium. The correct name is followed in italics by that given by Mueller or Osborn and Gardner if it differs. The localities are indicated. It has been possible to determine the locality of most of the specimens either from Dampier's notes or from the known distribution of the species. Eighteen of the 23 species are from Shark Bay, and only two definitely from Dampier's "Rosemary Island." These two are both widespread in the Archipelago, and so throw no light on the problem of which is Dampier's island. The specimens of uncertain locality occur widely along the north-west coast and could have come from either Shark Bay or further north. *Myoporum acuminatum* is also widespread, but Dampier's

specimen matches those in the Western Australian Herbarium from the Shark Bay region.

The specimens recently discovered and not seen by Osborn and Gardner are the *Brachycome, Calandrinia, Conostylis, Melaleuca, Olearia* and *Thryptomene*. Excepting the *Calandrinia* these were figured in the works of Dampier and Plukenet, and Osborn and Gardner's determinations from the figures were generally reliable; however, their "badly-drawn specimen of Beaufortia dampieri" is *Melaleuca cardiophylla* which is mixed with the *Thryptomene* on one sheet. Most of the specimens are fragments, e.g. the *Clianthus* (Fig. 1) has only the flowers, but in general they are in good condition. A few have been somewhat damaged by insects.

Several species, in addition to those represented by specimens, can be recognised from Dampier's observations. At Shark Bay he saw "a large Sort of Sampier, which bears a white Flower" growing in "Sand by the Seaside." [These quotations and those which follow are taken from Dampier's Voyages, Vol. 3 (1703)]. This was probably *Nitraria schoberi* L., the Nitre Bush, a succulent-leaved shrub which occurs there and has some resemblance to the European Samphire, *Crithmum maritimum* L. The tree described as having leaves "on one side whitish and on the other green" would be *Pittosporum*. He mentioned that "the grass grows in great Tufts, as big as a Bushel, here and there a Tuft." This could refer to *Spinifex longifolius*, R.Br., *Triodia plurinervata* N.T. Burbidge, or *Plectrachne danthonioides*, the first of which is common on the coastal dunes and the other two behind the foredunes. Dampier collected the *Plectrachne*.

TABLE 1—A LIST OF DAMPIER'S PLANTS

22	**Acacia coriacea DC.** *Grevillea* sp. (Osborn-Gardner). Uncertain locality.
38	**Acacia rostellifera Benth.** *A salicina* Lindl. (Mueller). Shark Bay.
2187	**Adriana tomentosa** Gaud. Uncertain locality.
10	**Beaufortia dampieri.** A Cunn. ex Hook. Shark Bay.
1915	**Brachycome ciliocarpa.** W. V. Fitzg. Shark Bay.
1915	**Calandrinia liniflora.** Fenzl. Shark Bay.
15	**Clianthus formosus** (G. Don) Ford et Vickery. *C. dampieri* A. Cunn. (Mueller). *C. speciosus* (G. Don) Aschers et Graebn. (Osborn-Gardner). Dampier Archipelago.
1712	**Conostylis candicans** Endl. var. **leptophylla** Benth. Shark Bay.
24	**Dampiera incana** R. Br. Shark Bay.
8	**Diplolaena grandiflora** Desf. *D. dampieri* Desf. (Mueller, Osborn-Gardner). Shark Bay.
34	**Frankenia pauciflora** DC. Shark Bay.
6	**Hannafordia quadrivalvis** F. Muell. Shark Bay.
31	**Lotus? cruentus** Court. *Tephrosia* sp. (Osborn-Gardner). Shark Bay. The specimen is sterile and cannot be definitely determined.
155	**Melaleuca cardiophylla** F. Muell. Shark Bay.
37	**Myoporum acuminatum** R. Br. *M. montanum* R. Br. (Mueller). Shark Bay.
1962	**Olearia axillaris** DC. *Aster axillaris* F. Muell. (Mueller). Dampier Archipelago.
19	**Paractaenum novae-hollandiae** Beauv. Shark Bay.
27	**Pittosporum phylliraeoides** DC. Probably *Mariantlus pictus* Lindl. (Mueller). Shark Bay.
20	**Plectrachne danthonioides** (F. Muell.) C. E. Hubb. *Plectrachne* sp. (Osborn-Gardner). Shark Bay.
s.n.	**Sida calyxhymenia** J. Gay. *Sida virgata* Hook. (Mueller). Uncertain locality.
7	**Solanum orbiculatum** Dun. Shark Bay.
155	**Thryptomene baeckeacea** F. Muell. Shark Bay.
23	**Trachymene elachocarpa** (F. Muell.) B. L. Burtt. *Didiscus pusillus* (DC). F. Muell. (Osborn-Gardner). Shark Bay.

From the descriptions of plants seen in the Dampier Archipelago, Mueller identified *Canavalia obtusifolia* DC.—a "creeping vine that runs along the Ground, having very thick broad leaves, and the Blossom like a Bean Blossom, but much larger, and of a deep red Colour, looking very beautiful." The flowers are obviously those of *Clianthus,* this being the only creeping legume in the area with large red flowers, but it has relatively small, soft leaflets. Dampier must have confused the foliage with

Fig. 1.—Dampier's specimens of the Sturt Pea, *Clianthus formosus* (G. (Don) Ford et Vickery, collected on his "Rosemary Island." There are no leaves with the collection. The large handwriting on the left is that of William Sherard (1659-1728) who acquired most of Dampier's collection. Other notes have been added by later workers.

that of another creeper growing with it. *Canavalia,* having thick leaflets, is a possibility, but so also is *Ipomoea pes-caprae* (L.) R.Br., a common morning-glory of the north-west coast. Dampier's other plant with "Grain like Beans which grew on Bushes" was possibly a species of *Crotalaria.*

At the La Grange landing Dampier again referred to the plants, some with "yellow Flowers or Blossoms, some blue and some white." His "small, red, hard Pulse, growing in Cods also, with little black Eyes like Beans" is *Abrus precatorius* L., which is recorded for the district, but does not extend far southwards. The "small black Mangrove-tree" along "the sides

Fig. 2.—Isotype of *Dampiera incana* R.Br., one of Dampier's blue flowers from Shark Bay. The holotype is at the British Museum (Natural History), South Kensington.

of the Creeks" cannot be identified as four species of mangrove occur in the area.

It seems likely that the Shark Bay area was having a fair season in 1699, judging by the ephemerals which Dampier collected, e.g. *Brachycome, Calandrinia, Paractaenum* and *Trachymene.* The specimens are not large enough to suggest an above-average season. He mentioned that "Most of the Trees and Shrubs had at this Time either Blossoms or Berries on them," noting that the flowers were "red, white, yellow, etc., but mostly blue." His Shark Bay specimens include only three with blue, mauve or purple flowers, viz. *Brachycome, Dampiera* and *Solanum,* whereas other common blue-flowered species there include *Trichodesma zeylanicum* (L.) R.Br., *Halgania littoralis* Gaud., *Hibiscus pinonianus* Gaud., *Porana sericea* (Gaud.) F. Muell., *Brachycome latisquamea* F. Muell., and *Scaevola crassifolia* Labill. For this reason it is possible that he actually collected more plants and that many were lost at some time, perhaps when the *Roebuck* sank off Ascension on the homeward voyage. There is also the point that some of his specimens are sterile, and it is hard to believe that he would collect these yet leave others which were in flower.

Osborn and Gardner, in suggesting that he did not make a general collection, point out that "he did not bring a specimen of Mulga, *Acacia aneura,* probably the most characteristic tree in this part of Australia." This is incorrect, as Mulga, an inland plant, does not occur anywhere near the west and north-west coasts. On the other hand, the paucity of specimens from the northern landings may correctly indicate less collecting there. Dampier may have been more intent on finding water, for his supplies were running low; he also had clashes with the Aborigines, and this, too, would have discouraged collecting.

The collection contains one syntype specimen—of *Dampiera incana* R.Br. (Fig. 2). The specimens of other species named after him are not types. Cunningham's descriptions of *Beaufortia dampieri* and *Clianthus dampieri* (= *C. formosus*) are based on his own collections, as he referred only to the figures of these species in Dampier's "Voyages." When Robert Brown published the name *Diplolaena* he cited collections by Dampier and Baudin, but he named no species. Neither of the two original species, *D grandiflora* Desf. and *D. dampieri* Desf., was based on the Dampier collection, which is therefore not a type. The figure in the "Voyage to New Holland" was referred to *D. dampieri* by Desfontaines, but the specimens from which it was drawn are actually *D. grandiflora.* Similarly the description of *Eurybia dampieri* A. Cunn. ex DC. (a synonym of *Olearia axillaris*) is based on a collection by Cunningham; de Candolle only refers to the figure of the plant in Dampier's "Voyages."

Dampier's collection is largely of historical interest, as he was the first Englishman to make a collection of plants in Australia. Whether he was the first person ever is conjectural; there are no earlier recorded collections, but there are in the herbarium of the Geneva Botanic Garden two specimens which were described as ferns by the Dutch botanist Burmann in 1768. The locality was given as Java, but the plants are in fact sterile specimens of *Acacia truncata* (Burm. f.) Hort. ex Hoffmsg. and *Synaphea spinulosa* (Burm. f.) Merrill, which are endemic in south-western Australia. They were probably collected when a Dutch ship stopped here on its way to Java. Although it is impossible to determine when this occurred, a strong possibility is the expedition of Willem Vlaming who explored the Swan River in 1697, two years before Dampier's visit to the North-west. Both the plants concerned occur in coastal areas near Perth.

REFERENCES

BROWN, R. 1814. In Flinders, *Voyage to Terra Australis,* London; 2: 546.

BURMANN, N. L. 1768. *Flora Indica,* Amsterdam; pp. 233, 235.

CANDOLLE, A. P. de. 1836. *Prodromus,* Paris; 5: 266.

CLOKIE, H. N. 1964. *An Account of the Herbaria of the Department of Botany in the University of Oxford,* Oxford.

CUNNINGHAM, A., ex W. J. Hooker. 1833. *Bot. Mag.,* tab. 3272.

CUNNINGHAM, A., ex J. Lindley. 1835. *Trans. Hort. Soc. London,* 2nd scr., 1: 522.

DAMPIER, W. 1703. *A Voyage to New Holland,* London; 3.

DESFONTAINES, M. 1817. *Mem. Mus. Hist. Nat. Paris,* 3: 449-453, pl. 19, 20.

HUGHES, J. 1699. Part of the log of the "Roebuck" kept by the Master, Jacob Hughes, January 4th, 1699 to September 25th, 1699, with observations by William Dampier, Commander. Photostat in Battye Library, Perth. Accessions no. 502A.

KING, P. P. 1827. *Narrative of a Survey of the Intertropical and Western Coasts of Australia.* London; 1: 53-56.

MUELLER, F. 1883. *The Plants Indigenous Around Sharks Bay and its Vicinity.* Parlt. Paper No. 26. Government Printer, Perth.

OSBORN, T. G. B., and C. A. GARDNER. 1939. Dampier's Australian Plants. *Proc. Linn. Soc. London,* Session 151, pt. 2: 44-50.

PLUKENET, L. 1705. *Amalthenm Botanicum,* London, pl. 450-454.

RAY, J. 1704. *Historia Plantarum,* London; 3, App.: 225-226.

TUCKFIELD, T. 1955. William Dampier—where did he land? *Journ. and Proc. W. Austral. Hist. Soc.,* 5 (1): 5-15.

IN THE FOOTSTEPS OF JAMES DRUMMOND WITH CHARLES AUSTIN GARDNER.

By D. H. PERRY, Victoria Park.

Dr. Serventy's obituary of C. A. Gardner in the August, 1970 issue of the *W.A. Naturalist* brought to mind many memories of my old friend. We first met in 1921 when he was employed by the Forests Department as its botanical collector. The herbarium he built up during that time was later handed over to the Western Australian Herbarium. Rather naturally he was very interested in James Drummond as a man, and as a botanist and collector, and never ceased to admire the courage and fortitude which enabled him to complete successfully his amazing collecting journeys. His ability to preserve his extensive collections in the field and to get them home despite the primitive conditions he was forced to work under was an outstanding achievement. Gardner, having made some very difficult collecting journeys himself, fully appreciated the problems of coping with the elements and with insect and fungal attacks on pressed specimens.

In the early 1940's we had many discussions on the probable routes that James Drummond had followed and by this time Gardner had been able to trace them approximately, by comparing his own collections and field notes with the plants Drummond collected. Since then, of course, Rica Erickson's researches have thrown much light on this subject and her book *The Drummonds of Hawthornden,* published in 1969, is a mine of information about the family. Gardner had set himself the task of re-collecting all the plants originally collected by Drummond, and had largely succeeded in doing this by the late 1940's. Two plants that had eluded him, I remember, were *Grevillea candolleana* and *Asterolasia pheballioides,* collected respectively, according to Drummond's notes, from the Toodyay district and the Hill River district. Gardner refers to his fruitless search for the latter plant in his article "The Botany of the Hill River District," *W.A. Naturalist,* 1 (1), 1947:1*

*In this article the word "able" in the 13th line of the central paragraph on p. 2 should read "unable." Gardner stated quite clearly in the central paragraph on p. 4 that he was unable to find *Asterolasia pheballioides.*